

SELECTING SAVE ON THE GAMES WE MAKE

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HOW INDIE GAME DEVELOPERS PRESERVE & ARCHIVE THEIR GAMES **ORIGINALLY PUBLISHED ON MARCH 16th, 2012**



Adam Saltsman
Semi Secret Games

1. Is it important for Semi Secret to preserve its video games for future audiences?

Of course! One of the main reasons (THE main reason?) that I make games (I can't speak for Eric in this case) is to create artifacts that might be able to outlive me.

2. Movie studios preserve their film negatives by storing them in special vaults to protect them from natural disasters and other harmful elements such as humidity.

Does Semi Secret preserve their source code, hardware, and production materials* in special vaults or locations to protect them from natural disasters and harmful elements?

***These production materials can include: Instruction booklets, marketing assets (print advertisements, TV commercials), and any or all production/development materials (character designs, dialogue scripts, and level layout designs).**

Since we mainly produce iOS games right now, our hardware and production materials are pretty limited. However, our source code is backed up and versioned in multiple locations around the US, and those hard drives are backed up as well.

3. With regards to video games, the greatest threat to video game source code is data/bit loss, and overall hardware failure and/or obsolescence.

Could Semi Secret explain any specific challenges of maintaining, transferring or retrieving video game source code from the 1980's or early 1990's hardware/media? (An example is transferring data from floppy magnetic disks that are vulnerable to damage over to new and more reliable present-day storage media).

Note: This question was previously given to developers and publishers that were established during the 80's/90's. This question can also be asked: Could you explain any specific challenges of transferring, backing up or retrieving source code from earlier hardware/software media to current storage media that is more reliable?

We're quite a new company (<3 years old), so all of our data exists in a pretty virtual, wholly digital space. I would be surprised if we had trouble converting or transferring data in the future. The only obstacle I can imagine running into is that even if we maintain our source code, the proprietary Apple compiler and libraries we use are constantly updated and changed. So even if the source code is transferred and preserved perfectly, there's actually not much to be done with

it if the correct compiler can't be found. This isn't a terrible worry at the moment, but in as little as 5 years I think it could become a greater challenge.

4. Should the video game industry and its related industry organizations work together to research solutions on how to properly preserve, archive and store video game source code and production materials?

Absolutely! I think preservation of hardware is just as important as preserving the source code, too. Especially for games made before the mid-90s, all of the artwork was specifically designed for display and consumption on CRTs, which drastically altered the appearance of the pixels. The greatest works from that era knew that they would be displayed on CRTs and were designed to take advantage of the blurring, actual color cell arrangements and overall brightness.

For another example, take the sound chip in the Sega Mega Drive (or Genesis, if you're in North America). The Mega Drive used a hardware frequency modulation chip to create the distinctive music and sound effects for that system that is almost impossible to perfectly recreate in software. For yet another example, the original NES didn't even output RGB! While an RGB palette could be guess-timated with the use of an oscilloscope and some other laboratory equipment, it still won't be the same as the crazy like chroma-intensity bit system that the hardware actually employed.

Of course, for games to grow as a form or medium or whatever we can't just obsess over the stuff we've already built; we need to focus more on real life and architecture and all of these other interesting sources of inspiration. However, I've lost count of the number of times I've had what I thought was a wild new idea only to find out that Rare had done it on the NES 25 years ago. For the sake of aesthetic appreciation and the ability to place our own work in a historical context, software and hardware preservation is of paramount importance!



Petri Purho
Kloonigames

1. Is it important for Kloonigames to preserve its video games for future audiences?

Yes. I think it's very important to preserve our history. Video games are an important part of our culture.

2. Movie studios preserve their film negatives by storing them in special vaults to protect them from natural disasters and other harmful elements such as humidity.

Does Kloonigames preserve their source code, hardware, and production materials* in special vaults or locations to protect them from natural disasters and harmful elements?

We'll we use source control that will hopefully last for a decade at least. The real solution to preservation in my opinion is open sourcing it. That's the only way to make sure a game lasts beyond the life time of a company. The good thing about video games is that most of the assets are digital. But that's also the biggest problem in preserving them. It's far easier to wipe out a hard drive than it is to throw away bunch of film cans.

My plan is to open source my games after a certain amount of time has passed. That way I'm crowd sourcing the preservation of the work I've done, because I know I'm going to be too lazy to properly preserve the games I've created.

3. With regards to video games, the greatest threat to video game source code is data/bit loss, and overall hardware failure and/or obsolescence.

Sorry we don't have any experience of getting games from 80/90's to work.

4. Should the video game industry and its related industry organizations work together to research solutions on how to properly preserve, archive and store video game source code and production materials?

I'd like to say yes. But also I think it's going to need the cooperation of the companies. The source code is "film" of the games. If you loose the source code, you're screwed. You can get by with binaries and emulators, but if the source code is gone, the game is always going to be limited to some degree to the hardware it was published on. Emulators do help, but you still need some do the rom dump. And hardware has an expiration date. The problem is that companies cling to the source code, they don't want to open source it, because that would "allow" anyone to take advantage of their IP. And that's going to be biggest problem in preserving video games. The companies will go down and the source codes will be lost.



Jasper Koning
Ronimo

1. Is it important for Ronimo to preserve its video games for future audiences?

Well, it's very important to us to have the original sources and binaries for our future selves, friends and relatives, but we haven't given much thought about other audiences. For future audiences we always presumed that making the games available on download platforms such as Steam would make them available forever. But when all these platforms go down we still have the means to make them available through other channels.

2. Movie studios preserve their film negatives by storing them in special vaults to protect them from natural disasters and other harmful elements such as humidity. Does Ronimo preserve their source code, hardware, and production materials* in special vaults or locations to protect them from natural disasters and harmful elements?

We preserve our complete repository that has been around since the beginning of our companies' existence by having several copies on different hard discs. As for non-digital production materials, I'm afraid we're not as rigorous as movie studios. Coincidentally we keep them in our vault, but that's only because we our office came with a vault. It's not part of a long term plan.

3. With regards to video games, the greatest threat to video game source code is data/bit loss, and overall hardware failure and/or obsolescence. Could Ronimo explain any specific challenges of maintaining, transferring or retrieving video game source code from the 1980's or early 1990's hardware/media? (An example is transferring data from floppy magnetic disks that are vulnerable to damage over to new and more reliable present-day storage media).

During our short lifetime we have always used the same media types, so it's been no trouble at all.

4. Should the video game industry and its related industry organizations work together to research solutions on how to properly preserve, archive and store video game source code and production materials?

It would be a shame if we couldn't show our kids what games we grew up with, so I'd say yes. Though I have no idea how. But my hope is that platforms such as Steam will make it easier to keep large amounts of games safe for a long time. Let's hope they keep proper backups.



Dave Burke
Hemisphere Games

I'll be honest and say that a formal backup process isn't really on our minds. These days we do everything 'in the cloud', as an implicit part of our sharing process -- in other words, we cache copies of our source assets, code, docs, etc. on remote storage. There's enough redundancy happening, and our offsite storage partners are large enough, that we don't expect to lose track of those materials.

Regarding obsolescence, again this is something we don't specifically consider. Our games will likely continue to run on future generations of hardware as the hardcore folks in the community emulate behavior of existing hardware, etc. And in the collective memory of the internet, there will likely always be videos or playable downloads available on someone's machine somewhere.



Mads Wibroe
Producer
Playdead Games

We don't have anything clever to contribute with, except a) we don't actively do anything to preserve anything and b) we hope someone does.

Second follow-up response:

Shortly after the release of this statement, Dino Patti, the CEO of Playdead, clarified the studio's position on preservation. He revealed that Playdead is now talking with the Danish Royal Library about officially preserving Limbo.



Mare Sheppard
Metanet Software

1. Is it important for Metanet to preserve its video games for future audiences?

Sure? With PC games it seems a lot less important because emulators or old systems are a lot easier to come by (e.g. DOSBox).

We are fairly confident people will be able to play our games in the future, and we intend to keep the high scores servers running for as long as we can.

2. Movie studios preserve their film negatives by storing them in special vaults to protect them from natural disasters and other harmful elements such as humidity.

Does Metanet preserve their source code, hardware, and production materials* in special vaults or locations to protect them from natural disasters and harmful elements?

***These production materials can include: Instruction booklets, marketing assets (print advertisements, TV commercials), and any or all production/development materials (character designs, dialogue scripts, and level layout designs).**

The hardware is essentially irrelevant, as it's just mid-2000s PCs.

Our source is backed up in various places on various media, and "in the cloud". For a while we traded backup DVDs with Jon Mak while he was making Everyday Shooter and we were trying to make Robotology.

Our physical notes -- e.g. endless stacks of tea-stained graph paper and notebooks filled with hastily scrawled ideas and more detailed versions -- are mostly packed in boxes in storage around the office.

We haven't really got much in the way of production materials beyond a few promotional items we had made for marketing, such as buttons, stickers, patches, etc. We also handmake some merchandise, and keep samples for our archive. We have an ever-dwindling supply of those in containers.

3. With regards to video games, the greatest threat to video game source code is data/bit loss, and overall hardware failure and/or obsolescence.

Could Metanet explain any specific challenges of maintaining, transferring or retrieving video game source code from the 1980's or early 1990's hardware/media? (An example is transferring data from floppy magnetic disks that are vulnerable to damage over to new and more reliable present-day storage media).

Note: This question was previously given to developers and publishers that were established during the 80's/90's. This question can also be asked: Could you explain any

specific challenges of transferring, backing up or retrieving source code from earlier hardware/software media to current storage media that is more reliable?

Yeah, I think this is mostly N/A for us -- everything we've ever done is on modern/contemporary hardware and software. I think maybe Win95/OS9 is as old as it gets, but possibly not even -- we may have been running XP/OSX by the time we started making games.

4. Should the video game industry and its related industry organizations work together to research solutions on how to properly preserve, archive and store video game source code and production materials?

Of course! Thankfully the emulator crowd (perhaps some would call them "the pirates") are doing a wonderful job of preserving ROMs and making sure there's some way to run them. Being open with the technical specs of older hardware would be good -- the waves of Famiclones must at least be partially responsible for the continued popularity of secondhand NES/SNES carts. It's important to us that we don't lose these historical moments because of the impact they've had on modern game development.



1. Is it important for Paradox to preserve its video games for future audiences?

It's not something we've actively thought of but we know that our games have a very long life span. You need only to go to our product portfolio to see games released more than 5 years ago still get patches, updates and a lot of developer and gamer love. We also support a lot of schools (like UCLA) with copies of our older titles as we have a network of teachers who use our strategy/history titles in their education programs. Of course we hope that our work will be relevant for many years to come but we also strive to continuously innovate and improve the way we develop games rather than think that they should last for many generations to come.

2. Movie studios preserve their film negatives by storing them in special vaults to protect them from natural disasters and other harmful elements such as humidity.

Our ambition has been to get most of our back catalogue up on the 25+ digital download portals we work with. So there are digital version of our all our games available in a multitude of places. In addition we store all of our gold masters in a special safe which we've been promised should withstand everything from natural disasters to a zombie attack.

Does Paradox preserve their source code, hardware, and production materials* in special vaults or locations to protect them from natural disasters and harmful elements? *These production materials can include: Instruction booklets, marketing assets (print advertisements, TV commercials), and any or all production/development materials (character designs, dialogue scripts, and level layout designs).

See above. We store GoldMasters, however we do not store marketing assets, manuals etc. We've also significantly reduced how much we print (like manuals) and use more digital assets these days.

3. With regards to video games, the greatest threat to video game source code is data/bit loss, and overall hardware failure and/or obsolescence. Could Paradox explain any specific challenges of maintaining, transferring or retrieving video game source code from the 1980's or early 1990's hardware/media? (An example is

transferring data from floppy magnetic disks that are vulnerable to damage over to new and more reliable present-day storage media).

Since the company was started around 1999 we've never experienced such issues.

- 4. Should the video game industry and its related industry organizations work together to research solutions on how to properly preserve, archive and store video game source code and production materials?**

With everything moving onto the digital space, I'm not really sure a more coordinated approach is needed to be honest. These days a lot of old games are making it onto the digital space and thus resurrecting their player base and interest without a massive amount of efforts from the creators.



Ichiro Lambe
Dejobaan

1. Is it important for Dejobaan to preserve its video games for future audiences?

Yes! The games, and especially the stories behind them. For example, years ago, we received an e-mail about our first game, a puzzle title called MarbleZone. Your goal there was to flip paths around to allow colored marbles to reach a destination. Logic game. A woman who had previously suffered neurological damage wrote us to mention that she was using it to "wake up the parts of her brain that were sleeping." This sticks with me.

When it's 3am, and you've been through what seems like an infinite period of crunch, it's easy to forget that there are actual people who are going to be playing our games. These experiences help us remember.

2. Does Dejobaan preserve their source code, hardware, and production materials* in special vaults or locations to protect them from natural disasters and harmful elements?

Your question comes about a week after I went through all of our old papers to figure out what to keep and what to toss. Awards? Keep. Magazine articles about us? Keep. Artwork? Keep. How about obsolete devices we developed for, for companies that have long since passed? The tricky thing is that we don't have much room to keep everything. Toss.

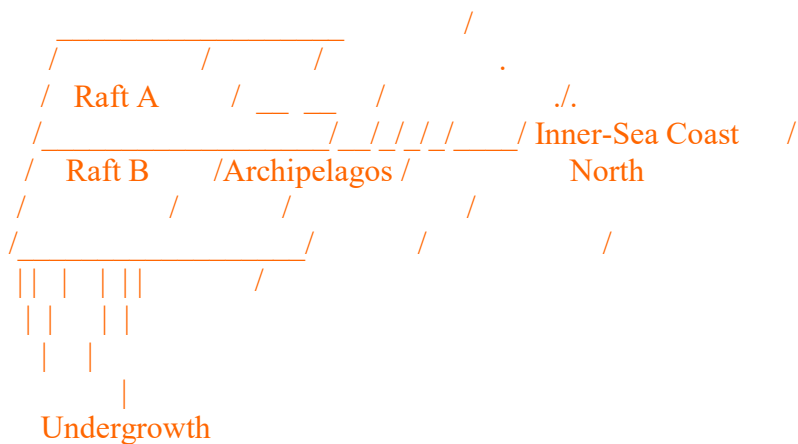
Source code? Keep, and occasionally move off-site in case my office burns to the ground. I still have a CD with the tongue-in-cheek title "Killgame Alpha," which became Inago Rage, the first of our "modern" games. When I'm done with our current round of games, I'm going to unearth it and see what it's like. I'm sure it'll bring me back to 2003 -- I'll laugh at it for its simplicity, yet I'm sure there'll be something delightful and elegant there.

3. Could Dejobaan explain any specific challenges of maintaining, transferring or retrieving video game source code from the 1980's or early 1990's hardware/media?

Dejobaan's been going strong since 1999, but I've been working on games for most of my life. I'd like to go back through everything I created during the '80s, but I suspect all the Atari 800 floppies are all mush by now. I co-wrote a BBS doors game in the late '80s, and was later able to

unearth some of its documentation and source code online -- you look back, and realize how fun this all was. Some dev notes from a few years later, from a collaborative effort on a commercial MUD:

Map (Not to scale)



II. Creatures (common to both rafts)

- A) Stupid, drone-creatures that go around doing menial things
- B) Troops
- C) Those annoying monsters in area C
- D) Harmless underwater creatures
- E) Really tough, actively hostile underwater creatures

IIIIII. Technical stuff

- A) Macro 42 which will contain:
 - 1. Power IFSAY's that will allow the players to shield themselves up or whatever. If certain creatures are killed by the player, these IFSAY's cease to function.

2. A WHO thingy
3. A, "So-and-so has logged into/out of the quest area."
4. Something that annoys the players if they're underwater for too long

B) Region

1. What region number? You can't stop me, I am too insane!
2. The reg. should depart to some altar or something.

Areas So Far:

- A. Archipelagos
- B. Wet Waters
- C. Extended Coast
- D. Eltinmar Flow
- E. Raft A
- F. Raft B
- G. Under Raft A
- H. Under Raft B

Please add lots of neat stuff to this and send it back.

And then some of the resulting script:

```

NUMBER 2310
NAME Square, Southeast
REGION 190
*DESCRIPTION_START
A tangle of viney plants grows from within cracks in the blue carpet nearly
covering the ground and everything on it. The carpet is damp and decaying,
squishing slightly as you walk over it.
*DESCRIPTION_END
EXIT N 2306
EXIT NW 2308
EXIT W 2309
; plant
ITEM 0 936 ADJ1=181 ADJ2=152
CALL 42

```

```
IFPREVERB BREAK 0
```

```

CLEARVERB
ECHO PLAYER You hack away at the plants but don't seem to be making much progress.
ECHO OTHERS %N hacks away at the vines but does not seem to be making much
progress.
    EQUAL ROUNDTIME 5
ENDIF

IFVAR RAC ! 1000
    RANDOM DUMMY1 1 30 0
    IFVAR DUMMY1 = 1
        ECHO PLAYER One of the plants grabs at your leg and pulls you down!
        ECHO OTHERS One of the vines grabs at %n's leg and pulls %i down!
        POSITION LAY
    ENDIF
ENDIF
ENDIF

```

That's a script that'll run on no system that exists today. And even if it did, how can you replicate an experience that required dozens of people to play? It'd be like walking through a ghost town. Outside of a text capture, how can we even retain that experience?

4. Should the video game industry and its related industry organizations work together to research solutions on how to properly preserve, archive and store video game source code and production materials?

Absolutely. I'd love for the industry to make this standard practice -- there's life in old concepts, old approaches to development, and old mechanics. Hell, consider the whole retro "pixel art" aesthetic -- it's important, because it allows small studios to create something aesthetically wonderful without spending \$20M on art. If we just focused on what was fresh and new, we wouldn't have that.

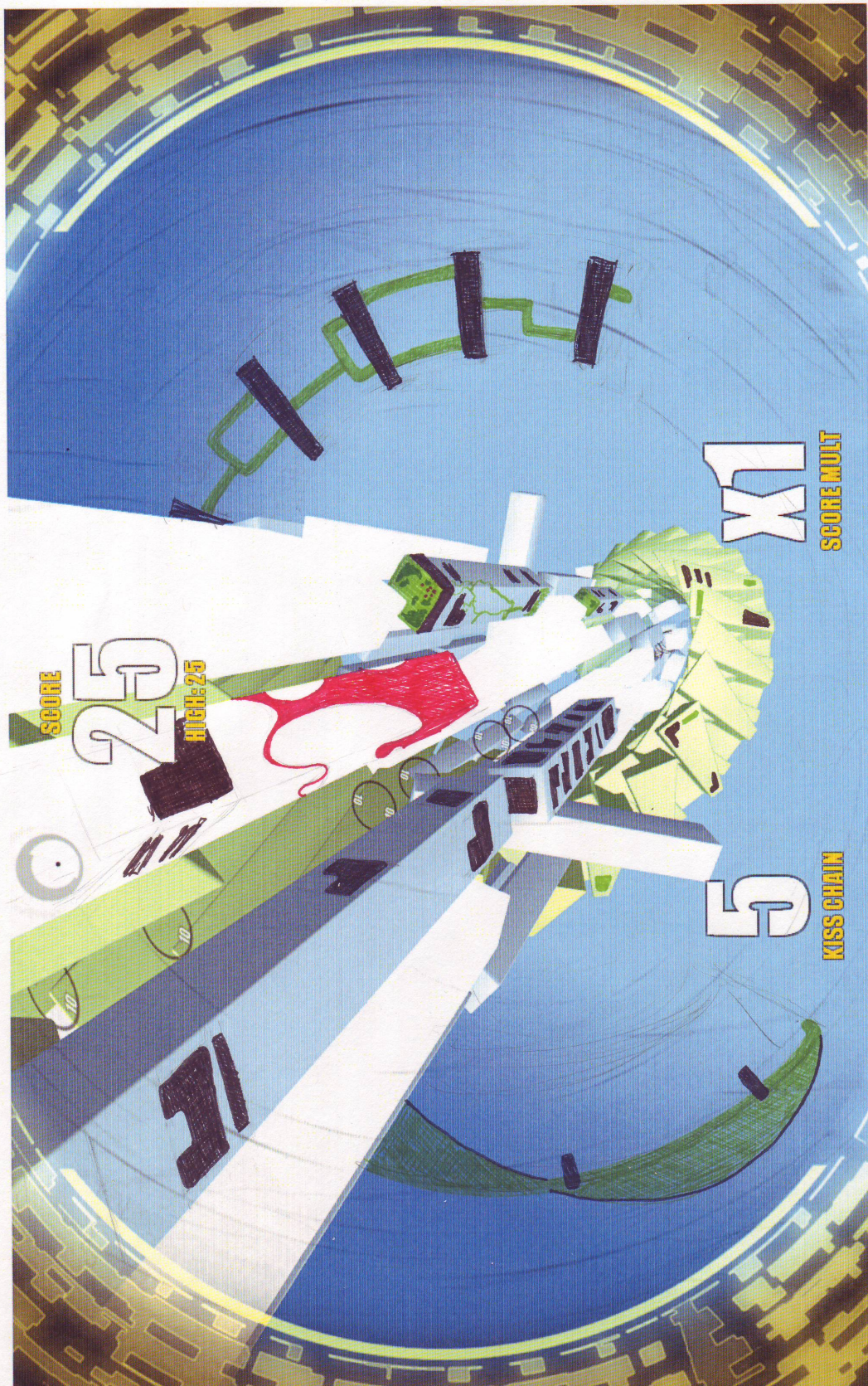
But there are a few things keeping us from all this:

- Doom's always at our doorstep! (The concept of doom, not the game.) Game developers rarely have the luxury of anything but a focus on developing new stuff.
- Technology moves ahead; old source isn't useful, and often isn't even readable with what we have now. What do I do with a cassette tape for a TI 99/4A?
- Sometimes old code's just embarrassing. :)

Images From Dejobaan Games:

The first image, 10001 is, by comparison, what we're doing in paper these days.

The second and third images, 10002 and 10003, are our hand-drawn maps from our first Steam-enabled game, The Wonderful End of the World.



ROBOTS - Lots - a core line, uttering, then later, feeding.

THE MINE - Raised platform can walk under at first, then get on top of

Bats (2049er) (Solid blue or green)

under the platform are clusters of ladders

Solid Red hat, shoe, hatchet, (or green) tea cup, antler, jackhammer on platform

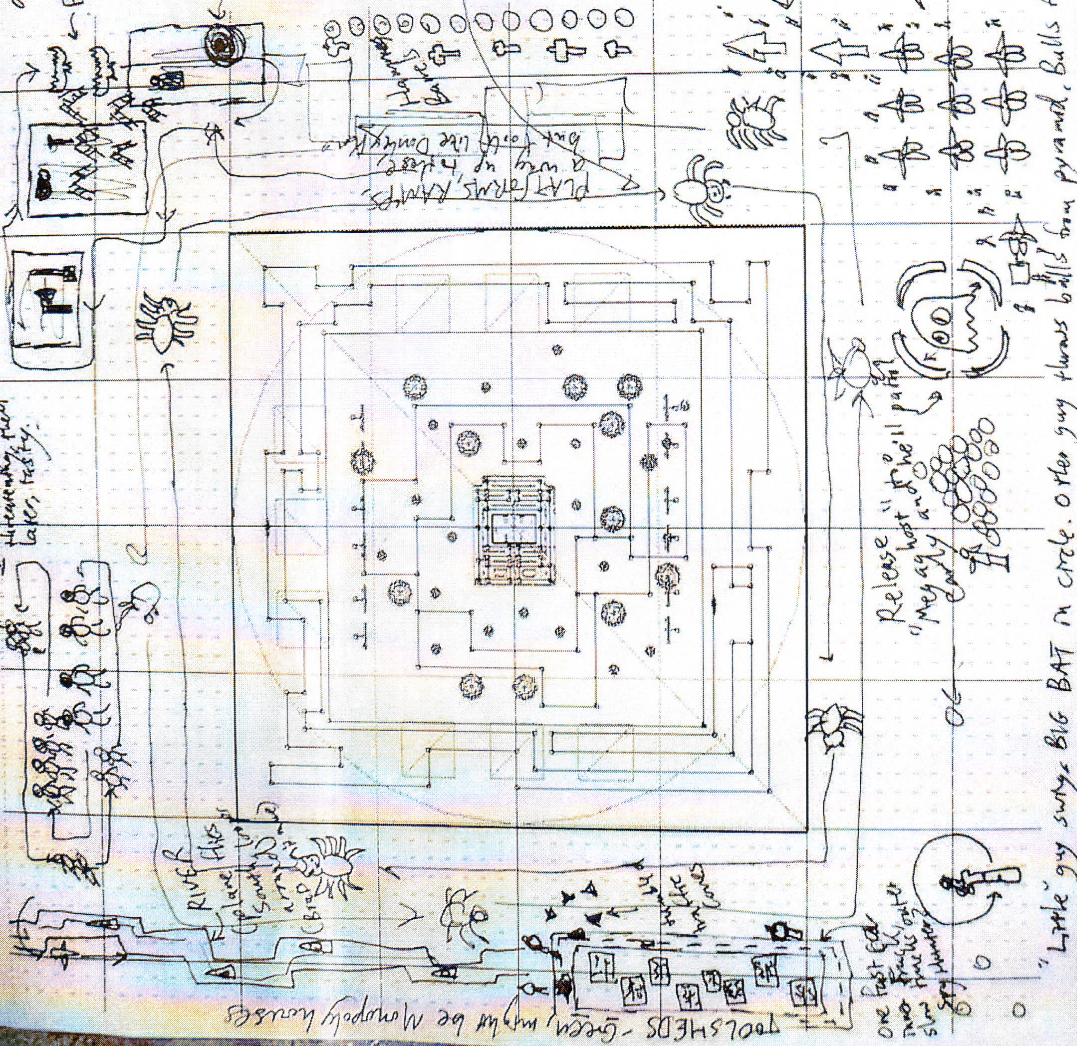
Four neop (puppet)

Spiders patrol outside the wall. Each is a different color (yellow, green, red, blue).

Four (real) spiders, Four (real) spiders, 1.5x size of the inner ones, patrol in opposite direction

Arrows are too big to pick up initially. Later, maybe.

(One v-tech has a wheelbarrow) Ventricks on airfield. Can they start taking off, 1 by 1, slowly, as soon as player sees them? They're mushroom-sized. Bulls fly out of level? Some spiders.



Release "host" and "patrol" "megay" early

"Little" guy sure. BIG BAT in circle. Other guy throws balls from pyramid. Bulls fly out of level? Some spiders.





spooky squid games

Miguel Sternberg
Spooky Squid Games

1. Is it important for Spooky Squid to preserve its video games for future audiences?

Like many indies right now we're most concerned with our future... while it would be great to carefully preserve our games and the materials that went into their creation, obscurity poses a bigger threat than bit-rot.

2. Movie studios preserve their film negatives by storing them in special vaults to protect them from natural disasters and other harmful elements such as humidity.

Nope, most of the material is either on the hardware we currently use or in sketches and notes stored haphazardly around the office.

3. With regards to video games, the greatest threat to video game source code is data/bit loss, and overall hardware failure and/or obsolescence.

Could Spooky Squid explain any specific challenges of maintaining, transferring or retrieving video game source code from the 1980's or early 1990's hardware/media? (An example is transferring data from floppy magnetic disks that are vulnerable to damage over to new and more reliable present-day storage media).

Note: This question was previously given to developers and publishers that were established during the 80's/90's. This question can also be asked: Could you explain any specific challenges of transferring, backing up or retrieving source code from earlier hardware/software media to current storage media that is more reliable?

Not very applicable to what we do.

4. Should the video game industry and its related industry organizations work together to research solutions on how to properly preserve, archive and store video game source code and production materials?

Yes. It would also be great if there were more people interviewing the creators and putting together the history of earlier games.



Nathan Fouts
President
Mommy's Best Games, Inc.

Preservation of source code and original production materials is very important for Mommy's Best Games as I feel games are as much art as entertainment products. We use a variety of methods of preserving original source code including hard disc copies, stand-alone backup drives cycled periodically, and FTP backups. As for our concept art on paper, marketing materials, and print press, each piece produced is kept in a humidity controlled storage room.

For a small, independent company such as ours, creation of each game is as much a life experience as it is work project. As time passes being able to look back on original production materials such as code but especially art, and design drawings is very important. It's almost like looking back at photos of a family trip you've taken years ago... it can be heart-warming and life enriching. I hope all smaller studios everywhere are careful to preserve their life's work.



Jim McGinley
Bigpants

Here's my story, it relates...

When I was in Grade 6 (1979) my Dad bought a TRS-80 Model III so we could learn about computers. He thought it was important to learn about them. My brother and I learned how to program it, and bought games using our allowance.

In 2009 I got the urge to play some of those games. While the computer and game cassettes were long gone (thrown out), a few people have preserved the TRS-80 via emulation. Given the small TRS-80 Model III audience, the process for getting & playing these games was not quite as straightforward as MAME.

Problems I Encountered

1. Few people have YouTube'd the TRS-80 games. Videos simply don't exist.
2. While the game cassette "ROMs" have been preserved for safekeeping by Ira Goldklang, "the resulting data is currently locked away for safekeeping, until the copyright expires." Due to Walt Disney, that's ~50 years away (read his page)
<http://www.trs-80.com/wordpress/archive-search/>
While I doubt anyone would care, playing a TRS-80 Model III game in the year 2011 is potentially illegal.
3. The TRS-80 emulators don't ship with the operating system (technically illegal).
<http://www.trs-80emulators.com/> - fantastic TRS-80 emulator, but unusable without the operating system.
4. If you do get the operating system, running the emulator is NOT simple.
It requires arcane TRS-80 knowledge that few people remember (like DIP switches in MAME).
The TRS-80 had 2 major models (Model I and Model III), with 2 types of operating system (cassette and disk).
Games only support one variation and there's no way to tell which one aside from trial and error.
In some cases, I have 9 versions of a game and I need to try each model & operating system combination to figure out which is best.

5. I've managed to find ~3,000 (guessing) TRS-80 game ROMs.

Separating the wheat from the chaff is only possible because I recall what games were good.

Thoughts

Even though the emulators and ROMs exist, these games will be lost.

Even if a historian figured out how to work the arcane operating system, you'd need to spend years playing the 3,000 TRS-80 game ROMs to determine which were notable.

It's important to document the games worth remembering.

Nostalgia will eventually drive today's generation to seek out old games.

While the most famous games have been emulated/captured/documented, some great games will be lost.

Specifically, a generation was raised on crappy cell phone games... but some were great.

Trying to find and play those games presents all the same problems as the TRS-80.

i.e. Need an emulator for the old cell phones, need to remember the names of the games, copyright issues prevent them from being preserved.

1. Is it important for Bigpants to preserve its video games for future audiences?

Absolutely. Having said that, our main problem is expanding our audience :)

2. Movie studios preserve their film negatives by storing them in special vaults to protect them from natural disasters and other harmful elements such as humidity.

Does Bigpants preserve their source code, hardware, and production materials* in special vaults or locations to protect them from natural disasters and harmful elements?

All of our digital stuff is backed up on USB drives, and we're migrating current work to Dropbox to protect from big disasters. Our production materials are not stored anywhere special, and likely won't be until we grow larger. We've got some great Memorabilia from events where we've displayed games (FuturePlay, TCAF, FanExpo), and some interesting stuff from TOJam (nametags & registration forms of people before they get famous).

3. With regards to video games, the greatest threat to video game source code is data/bit loss, and overall hardware failure and/or obsolescence.

My old TRS-80 and Commodore 64 games are long lost. Luckily, no-one is missing much and I can redo the ideas fairly easily :)

Thanks to the Internet (TCP/IP protocol), USB drives and cloud storage, I believe the greatest threat is not hardware failure or obsolescence. If a new format arrives, it be connected to the Internet so data can be easily transferred from the old format to the new format. History shows that people are ready and willing to create emulators, so you'll likely be able to use that data.

Preservation is no longer about the bits, the problem has changed.

The 3 biggest preservation challenges today (unlike 1980/1990) are:

1. Staying organized. It's easy to create a lot of stuff, but hard to remember where it was put.
 2. Games are increasingly part client, part server (Farmville, World of Warcraft). Emulating this will be tricky.
 3. Proprietary hardware (Wii controller, Kinect, PS3 motion controller). I'm expecting an avalanche of home made controllers.
- i.e. Deep Sea > <http://www.joystiq.com/2011/03/12/deep-sea-the-scariest-game-ever/>

4. Should the video game industry and its related industry organizations work together to research solutions on how to properly preserve, archive and store video game source code and production materials?

Yes... but I don't think that's going to work. The video game industry is so relentlessly focused on the future, it's unlikely they'll spend much time preserving the past. I think there needs to be a separate central body (like the Library of Congress) dedicated to storing everything. A central body that everyone trusts. Once a game is complete, you send it to this central body for preservation. Ideally the government and game industry fund this together.



Christine Hoang (PR/Communications)
Emil Ayoubkhan (Project Manager)
The Behemoth

1. Is it important for Behemoth to preserve its video games for future audiences?

Christine:

Preservation of a game is very important, though it may not be at the forefront of our priorities. We take pride in every step of development in our games, from endless hours of coding, creating art, to play testing and bug-fixing. It would be devastating if we lost any part of that, and it would take away the ability of new fans to experience our games.

2. Movie studios preserve their film negatives by storing them in special vaults to protect them from natural disasters and other harmful elements such as humidity.

Does Behemoth preserve their source code, hardware, and production materials* in special vaults or locations to protect them from natural disasters and harmful elements?

***These production materials can include: Instruction booklets, marketing assets (print advertisements, TV commercials), and any or all production/development materials (character designs, dialogue scripts, and level layout designs).**

Emil:

Although we don't have secret vaults that protect our source code from the inevitable apocalypse, we do have backups floating around at various off site facilities.

Our most valuable asset is not a line of code, or some specific hardware. One of the most valuable things in our company is Dan Paladin, specifically his left hand.

A good example of this is a story that involves Dan and a local rock climbing gym that he attends. Dan came back from the rock climbing gym and told us how he accidentally fell back and hit the floor pretty hard. The first question we asked him was if his left hand was ok, and not so much about how the rest of his body felt.

3. With regards to video games, the greatest threat to video game source code is data/bit loss, and overall hardware failure and/or obsolescence.

Could Behemoth explain any specific challenges of maintaining, transferring or retrieving video game source code from the 1980's or early 1990's hardware/media? (An example is transferring data from floppy magnetic disks that are vulnerable to damage over to new and more reliable present-day storage media).

Note: This question was previously given to developers and publishers that were established during the 80's/90's. This question can also be asked: Could you explain any specific challenges of transferring, backing up or retrieving source code from earlier hardware/software media to current storage media that is more reliable?

N/A

4. Should the video game industry and its related industry organizations work together to research solutions on how to properly preserve, archive and store video game source code and production materials?

Christine:

If the video game industry and its related industry organizations worked together to compile these materials, it would create bonds of understanding they'll share a common goal.

Preservation of video games should be important to anyone who's ever worked on a video game, or loves to play them. How else would future generations understand the history and revolution of video games to truly appreciate them?